



**MWH**

December 18, 2003

EPA Region 5 Records Ctr.



370027

Mr. Kevin Adler  
Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V, SR-J6  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Re: 2003 Residential Well Sampling Results  
ACS NPL Site, Griffith, Indiana

Dear Mr. Adler:

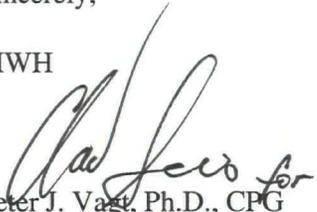
Please find enclosed a series of tables summarizing the 2003 Residential Well Sampling Results. In accordance with the approved Long-Term Groundwater Monitoring Plan, samples from the five residential wells near the ACS facility were analyzed for low-concentration volatile organic compounds, semi-volatile organic compounds, pesticides, poly-chlorinated biphenyls, metals, and cyanide. All analytical results have been validated in accordance with the approved Quality Assurance Project Plan.

As you are aware, two locations (PW-A and PW-Y) were resampled in November 2003 for semi-volatile organic compounds due to a detection of pentachlorophenol. This compound was not detected in the November 2003 sample.

The first two tables summarize the sampling results from all five residential wells in the Fall of 2003. The next series of tables present the full analytical results for each well. If you need additional copies of these tables, please let me know and we can forward them to you, or whomever you specify.

Sincerely,

MWH

  
Peter J. Vagt, Ph.D., CPG  
Vice President

cc: Barbara Magel, Karaganis White & Magel, Ltd.  
File

Enclosures: Summary of Organic Compound Detections in Residential Wells – September 2003  
Summary of Inorganic Compound Detections in Residential Wells – September 2003  
Full Analytical Result Tables (PW-A, PW-B, PW-C, PW-D, PW-Y)

CAS/PJV/jmf  
J:\209\0603 ACS\0305 Residential Sampling\2003\EPA Letter\EPC Cover.doc

**Summary of Organic Compound Detections in Residential Wells - September 2003**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

Parameter	U.S. EPA	RW-A				PW-B		PW-C		PW-D		PW-Y					
	MCL	Sep-03	RL	Nov-03	RL	Sep-03	RL	Sep-03	RL	Sep-03	RL	Sep-03	RL	Nov-03	RL		
<b>Volatile Organic Compounds</b>																	
1,1,2-Trichloroethane	5	ND				ND		0.78	0.5	ND		ND					
4-Methyl-2-pentanone	NA	ND				ND		ND		ND		1.5	J/	3			
Acetone	NA	1.5	J/	3		1.4	J/	3	1.2	J/	3	1.8	J/	3	1.8	JB/UB	3
Bromodichloromethane	NA	ND				ND		ND		ND		5.5			0.5		
Carbon Disulfide	NA	ND				ND		0.19	J/	0.5	0.08	J/	0.5	ND			
Chlorobenzene	100	0.057	J/	0.5		0.04	J/	0.5	0.04	J/	0.5	ND		0.036	JB/UB	0.5	
Chloroform	NA	0.035	J/	0.5		ND		0.063	J/	0.5	ND		8.1		0.5		
Dibromochloromethane	NA	ND				ND		ND		ND		3.1			0.5		
Ethylbenzene	700	ND				ND		ND		ND		0.057	JB/UB	0.5			
Methylene Chloride	NA	0.48	JB/UB	0.5		0.45	JB/UB	0.5	0.53	B/UB	0.5	0.52	B/UB	0.5	0.62	B/UB	0.5
Toluene	1,000	0.43	JB/UB	0.5		0.35	JB/UB	0.5	0.31	JB/UB	0.5	0.33	JB/UB	0.5	0.21	JB/UB	0.5
Tetrachloroethene	5	0.043	J/	0.5		ND		ND		0.046	J/	0.5	0.055	JB/UB	0.5		
Xylene (total)	10,000	0.091	J/	0.5		0.068	J/	0.5	ND		ND		0.36	JB/UB	0.5		
<b>Semi-Volatile Organic Compounds</b>																	
Bis(2-ethylhexyl)phthalate	6	ND			ND	ND		ND		ND		1.2	JB/UB		ND		
Pentachlorophenol	1	15			ND	ND		ND		ND		2.7	J/		ND		
Phenanthrene	NA	1.3	J/		ND	ND		ND		ND		ND			ND		
Pyrene	NA	0.73	J/		ND	ND		ND		ND		ND			ND		

Not re-sampled because there were no MCL exceedances in the original sample

Not re-sampled because there were no MCL exceedances in the original sample

**Notes:**

- All results in micrograms per liter (ug/l).
- ND = Compound was not detected in sample.
- Only detected compounds listed.
- MCL = Maximum Contaminant Level
- Bold** result indicates exceedance of MCL.
- Gray shaded boxes indicate compound not analyzed
- NA = MCL does not exist for this analyte
- RL = Reporting Limit
- X/ = Data qualifier added by laboratory
- /X = Data qualifier added by validation
- J = Estimated value; concentration detected is below reporting limit
- B = Indicates analyte detected in laboratory blank
- UB = Analyte is not detected at or above the indicated concentration due to blank contamination.

**Summary of Organic Compound Detections in Residential Wells - September 2003**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

Parameter	U.S. EPA	PW-A		PW-B		PW-C		PW-D		PW-Y							
	MCL	Sep-03	RL	Nov-03	RL	Sep-03	RL	Sep-03	RL	Sep-03	RL	Nov-03	RL				
<b>PCBs/Pesticides</b>																	
4,4'-DDT	NA	0.0003	JP/J	0.02	Not re-sampled because there were no MCL exceedances in the original sample	ND		ND		ND		ND					
alpha-Chlordane	2	0.0019	BJP/UBJ	0.01		0.0031	BJP/UBJ	0.01	0.0008	BJP/UBJ	0.01	0.0012	BJP/UBJ	0.01	ND		
alpha-BHC	0.2	ND				0.0011	JP/J	0.01	ND			ND		ND			
beta-BHC	0.2	ND				ND			ND		0.00086	BJP/UBJ	0.01	0.0027	BJP/UBJ	0.01	
delta-BHC	0.2	ND				ND			ND		ND		0.004	JP/J	0.01		
Dieldrin	NA	0.00093	BJP/UBJ	0.02		0.0012	BJ/UB	0.02	0.00026	BJP/UBJ	0.02	0.0012	BJP/UBJ	0.02	0.0013	BJP/UBJ	0.02
Endosulfan I	NA	ND				ND			ND		ND		0.0022	J/	0.01		
Endosulfan II	NA	ND				ND			ND		ND		0.0022	J/	0.02		
Endosulfan sulfate	NA	0.00045	JP/J	0.02		ND			ND		ND		0.0009	JP/J	0.02		
Endrin	2	0.0017	J/J	0.02		ND			ND		ND		ND				
Endrin aldehyde	NA	0.00099	JP/J	0.02		ND			ND		ND		ND				
Endrin ketone	NA	0.00098	BJP/UBJ	0.02		0.0046	BJP/UBJ	0.02	0.00046	BJP/UBJ	0.02	0.00029	BJP/UBJ	0.02	0.002	BJP/UBJ	0.02
gamma-Chlordane	2	0.00058	JP/J	0.01		ND			0.00042	JP/J	0.01	ND		ND			
Not re-sampled because there were no MCL exceedances in the original sample																	

**Notes:**

- All results in micrograms per liter (ug/l).
- ND = Compound was not detected in sample.
- Only detected compounds listed.
- MCL = Maximum Contaminant Level
- Gray shaded boxes indicate compound not analyzed
- NA = MCL does not exist for this analyte
- RL = Reporting Limit
- X/ = Data qualifier added by laboratory
- /X = Data qualifier added by validation
- J = Estimated value; concentration detected is below reporting limit
- B = Indicates analyte detected in laboratory blank
- UB = Analyte is not detected at or above the indicated concentration due to blank contamination.
- P = The Relative Percent Difference between the two GC column values is greater than 40%. The higher value has been reported.

**Residential Well PW-A  
September 2003 Results**

Well	VOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-A	1,1,1-Trichloroethane		ug/l	U		0.5
PW-A	1,1,2,2-Tetrachloroethane		ug/l	U		0.5
PW-A	1,1,2-Trichloroethane		ug/l	U		0.5
PW-A	1,1-Dichloroethane		ug/l	U		0.5
PW-A	1,1-Dichloroethene		ug/l	U		0.5
PW-A	1,2,4-Trichlorobenzene		ug/l	U		0.5
PW-A	1,2-Dibromo-3-chloropropane		ug/l	U		0.5
PW-A	1,2-Dibromoethane		ug/l	U		0.5
PW-A	1,2-Dichlorobenzene		ug/l	U		0.5
PW-A	1,2-Dichloroethane		ug/l	U		0.5
PW-A	1,2-Dichloropropane		ug/l	U		0.5
PW-A	1,3-Dichlorobenzene		ug/l	U		0.5
PW-A	1,4-Dichlorobenzene		ug/l	U		0.5
PW-A	2-Butanone		ug/l	U		3
PW-A	2-Hexanone		ug/l	U		3
PW-A	4-Methyl-2-pentanone		ug/l	U		3
PW-A	Acetone	1.5	ug/l	J		3
PW-A	Benzene		ug/l	U		0.5
PW-A	Bromodichloromethane		ug/l	U		0.5
PW-A	Bromoform		ug/l	U		0.5
PW-A	Bromomethane		ug/l	U		0.5
PW-A	Carbon disulfide		ug/l	U		0.5
PW-A	Carbon Tetrachloride		ug/l	U		0.5
PW-A	Chlorobenzene	0.057	ug/l	J		0.5
PW-A	Chloroethane		ug/l	U		0.5
PW-A	Chloroform	0.035	ug/l	J		0.5
PW-A	Chloromethane		ug/l	U		0.5
PW-A	cis-1,2-Dichloroethene		ug/l	U		0.5
PW-A	cis-1,3-Dichloropropene		ug/l	U		0.5
PW-A	Dibromochloromethane		ug/l	U		0.5
PW-A	Dichlorodifluoromethane		ug/l	U		0.5
PW-A	Ethyl Benzene		ug/l	U		0.5
PW-A	Isopropylbenzene		ug/l	U		0.5
PW-A	m,p-Xylene	0.082	ug/l	J		1
PW-A	Methyl tert-butyl ether		ug/l	U		0.5
PW-A	Methylene chloride	0.48	ug/l	JB	UB	0.5
PW-A	o-xylene		ug/l	U		0.5
PW-A	Styrene		ug/l	U		0.5
PW-A	Tetrachloroethene	0.043	ug/l	J		0.5
PW-A	Toluene	0.43	ug/l	JB	UB	0.5
PW-A	trans-1,2-Dichloroethene		ug/l	U		0.5
PW-A	trans-1,3-Dichloropropene		ug/l	U		0.5
PW-A	Trichloroethene		ug/l	U		0.5
PW-A	Trichlorofluoromethane		ug/l	U		0.5
PW-A	Vinyl chloride		ug/l	U		0.5
PW-A	Xylenes (total)	0.091	ug/l	J		0.5

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

CAS/LRH

J:209/0603/0305/2003/EPALetter/FullList\_PW-A.xls[PWA\_VOC]

**Residential Well PW-A  
September 2003 Results**

Well	SVOC Analyte	September 2003 Sample			November 2003 Resample			Units	Detection Limit
		Result	LQ	DQ	Result	LQ	DQ		
PW-A	1,2,4,5-Tetrachlorobenzene		U			U		ug/l	5
PW-A	2,2'-oxybis(1-Chloropropane)		U			U		ug/l	5
PW-A	2,4,5-Trichlorophenol		U			U		ug/l	20
PW-A	2,4,6-Trichlorophenol		U			U		ug/l	5
PW-A	2,4-Dichlorophenol		U			U		ug/l	5
PW-A	2,4-Dimethylphenol		U			U		ug/l	5
PW-A	2,4-Dinitrophenol		U			U		ug/l	20
PW-A	2,4-Dinitrotoluene		U			U		ug/l	5
PW-A	2,6-Dinitrotoluene		U			U		ug/l	5
PW-A	2-Chloronaphthalene		U			U		ug/l	5
PW-A	2-Chlorophenol		U			U		ug/l	5
PW-A	2-Methylnaphthalene		U			U		ug/l	5
PW-A	2-Methylphenol		U			U		ug/l	5
PW-A	2-Nitroaniline		U			U		ug/l	20
PW-A	2-Nitrophenol		U			U		ug/l	5
PW-A	3,3'-Dichlorobenzidine		U	UJ		U	UJ	ug/l	5
PW-A	3-Nitroaniline		U			U		ug/l	20
PW-A	4,6-Dinitro-2-methylphenol		U			U		ug/l	20
PW-A	4-Bromophenyl-phenylether		U			U		ug/l	5
PW-A	4-Chloro-3-methylphenol		U			U		ug/l	5
PW-A	4-Chloroaniline		U	UJ		U	UJ	ug/l	5
PW-A	4-Chlorophenyl-phenyl ether		U			U	UJ	ug/l	5
PW-A	4-Methylphenol		U			U		ug/l	5
PW-A	4-Nitroaniline		U			U		ug/l	20
PW-A	4-Nitrophenol		U			U	UJ	ug/l	20
PW-A	Acenaphthene		U			U		ug/l	5
PW-A	Acenaphthylene		U			U		ug/l	5
PW-A	Acetophenone		U			U		ug/l	5
PW-A	Anthracene		U			U		ug/l	5
PW-A	Atazine		U	UJ		U	UJ	ug/l	5
PW-A	Benzo(a)anthracene		U			U	UJ	ug/l	5
PW-A	Benzo(a)pyrene		U			U		ug/l	5
PW-A	Benzo(b)fluoranthene		U			U		ug/l	5
PW-A	Benzo(g,h,i)perylene		U			U		ug/l	5
PW-A	Benzo(k)fluoranthene		U			U		ug/l	5
PW-A	Bis(2-chloroethoxy)methane		U			U		ug/l	5
PW-A	bis(2-chloroethyl) ether		U			U		ug/l	5
PW-A	Bis(2-ethylhexyl)phthalate		U			U		ug/l	5
PW-A	Butylbenzylphthalate		U			U		ug/l	5
PW-A	Chrysene		U			U		ug/l	5
PW-A	Dibenzo(a,h)anthracene		U			U		ug/l	5
PW-A	Dibenzofuran		U			U		ug/l	5
PW-A	Diethylphthalate		U			U		ug/l	5
PW-A	Dimethylphthalate		U			U		ug/l	5
PW-A	Di-n-butylphthalate		U			U		ug/l	5
PW-A	Di-n-octylphthalate		U			U	UJ	ug/l	5
PW-A	Fluoranthene		U			U		ug/l	5
PW-A	Fluorene		U			U		ug/l	5
PW-A	Hexachlorobenzene		U			U	UJ	ug/l	5
PW-A	Hexachlorobutadiene		U			U		ug/l	5
PW-A	Hexachlorocyclopentadiene		U			U		ug/l	5
PW-A	Hexachloroethane		U			U		ug/l	5
PW-A	Indeno(1,2,3-cd)pyrene		U			U		ug/l	5
PW-A	Isophorone		U			U		ug/l	5
PW-A	Naphthalene		U			U		ug/l	5
PW-A	Nitrobenzene		U			U	UJ	ug/l	5
PW-A	N-Nitroso-di-n-propylamine		U			U		ug/l	5
PW-A	N-Nitrosodiphenylamine		U	UJ		U	UJ	ug/l	5
PW-A	Pentachlorophenol	15				U		ug/l	5
PW-A	Phenanthrene	1.3	J			U		ug/l	5
PW-A	Phenol		U			U	UJ	ug/l	5
PW-A	Pyrene	0.73	J			U		ug/l	5

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

**Residential Well PW-A  
September 2003 Results**

Well	PCB/Pesticide Analyte	Result	Units	LQ	DQ	Detection Limit
PW-A	4,4'-DDD		ug/l	U		0.02
PW-A	4,4'-DDE		ug/l	U		0.02
PW-A	4,4'-DDT	0.0003	ug/l	JP	J	0.02
PW-A	Aldrin		ug/l	U	UJ	0.01
PW-A	alpha-BHC		ug/l	U		0.01
PW-A	alpha-Chlordane	0.0019	ug/l	BJP	UBJ	0.01
PW-A	Aroclor-1016		ug/l	U		0.2
PW-A	Aroclor-1221		ug/l	U		0.4
PW-A	Aroclor-1232		ug/l	U		0.2
PW-A	Aroclor-1242		ug/l	U		0.2
PW-A	Aroclor-1248		ug/l	U		0.2
PW-A	Aroclor-1254		ug/l	U		0.2
PW-A	Aroclor-1260		ug/l	U		0.2
PW-A	beta-BHC		ug/l	U		0.01
PW-A	delta-BHC		ug/l	U		0.01
PW-A	Dieldrin	0.00093	ug/l	BJP	UBJ	0.02
PW-A	Endosulfan I		ug/l	U		0.01
PW-A	Endosulfan II		ug/l	U		0.02
PW-A	Endosulfan sulfate	0.00045	ug/l	JP	J	0.02
PW-A	Endrin	0.0017	ug/l	J	J	0.02
PW-A	Endrin aldehyde	0.00099	ug/l	JP	J	0.02
PW-A	Endrin ketone	0.00098	ug/l	BJP	UBJ	0.02
PW-A	gamma-BHC		ug/l	U	UJ	0.01
PW-A	gamma-Chlordane	0.00058	ug/l	JP	J	0.01
PW-A	Heptachlor		ug/l	U	UJ	0.01
PW-A	Heptachlor epoxide		ug/l	U		0.01
PW-A	Methoxychlor		ug/l	U		0.1
PW-A	Toxaphene		ug/l	U		1

Notes

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DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

P - The relative percent difference between the two GC column values was greater than 40%. The higher value has been reported.

**Residential Well PW-A  
September 2003 Results**

Well	Inorganic Analyte	Result	Units	LQ	DQ	Detection Limit
PW-A	Aluminum		ug/l	U		200
PW-A	Antimony		ug/l	U		10
PW-A	Arsenic		ug/l	U		10
PW-A	Barium	140	ug/l		B	10
PW-A	Beryllium		ug/l	U		5
PW-A	Cadmium		ug/l	U		5
PW-A	Calcium	87400	ug/l		B	5000
PW-A	Chromium (Total)		ug/l	U		5
PW-A	Cobalt		ug/l	U		5
PW-A	Copper	4	ug/l	B	UB	5
PW-A	Cyanide (Total)		ug/l	U		10
PW-A	Iron	2200	ug/l			100
PW-A	Lead	1.5	ug/l	B	UB	3
PW-A	Magnesium	45600	ug/l		B	5000
PW-A	Manganese	36.9	ug/l		B	10
PW-A	Mercury		ug/l	U		0.2
PW-A	Nickel		ug/l	U		5
PW-A	Potassium	3230	ug/l	B	UB	5000
PW-A	Selenium	2.5	ug/l	UN		5
PW-A	Silver		ug/l	U		5
PW-A	Sodium	20400	ug/l		B	5000
PW-A	Thallium	3.7	ug/l	UN	UJ	10
PW-A	Vanadium	1.7	ug/l	B	UB	20
PW-A	Zinc	22.2	ug/l	E	UBJ	20

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

LQ column flags

U - Compound not detected above the detection limit

N - Sample spike recovery was outside of control limits; concentration is considered estimated.

B - Compound was detected above the instrument detection limit but below the reporting limit; concentration is estimated.

E - Serial dilution not within 10%; concentration is estimated.

DQ column flags

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

**Residential Well PW-B  
September 2003 Results**

Well	Inorganic Analyte	Result	Units	LQ	DQ	Detection Limit
PW-B	Aluminum		ug/l	U		200
PW-B	Antimony		ug/l	U		10
PW-B	Arsenic		ug/l	U		10
PW-B	Barium	136	ug/l		UB	10
PW-B	Beryllium		ug/l	U		5
PW-B	Cadmium		ug/l	U		5
PW-B	Calcium	86700	ug/l		B	5000
PW-B	Chromium (Total)	1.4	ug/l	B	UB	5
PW-B	Cobalt		ug/l	U		5
PW-B	Copper	48.1	ug/l		B	5
PW-B	Cyanide (Total)		ug/l	U		10
PW-B	Iron	3080	ug/l			100
PW-B	Lead	12.9	ug/l		B	3
PW-B	Magnesium	41700	ug/l		B	5000
PW-B	Manganese	59.5	ug/l		B	10
PW-B	Mercury		ug/l	U		0.2
PW-B	Nickel	1.1	ug/l	B		5
PW-B	Potassium	2730	ug/l	B	UB	5000
PW-B	Selenium	2.5	ug/l	UN		5
PW-B	Silver	1	ug/l	B		5
PW-B	Sodium	20200	ug/l		B	5000
PW-B	Thallium	3.7	ug/l	UN	UJ	10
PW-B	Vanadium	1.7	ug/l	B	UB	20
PW-B	Zinc	25.3	ug/l	E	UBJ	20

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

LQ column flags

U - Compound not detected above the detection limit

N - Sample spike recovery was outside of control limits; concentration is considered estimated.

B - Compound was detected above the instrument detection limit but below the reporting limit; concentration is estimated.

E - Serial dilution not within 10%; concentration is estimated.

DQ column flags

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

**Residential Well PW-B  
September 2003 Results**

Well	VOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-B	1,1,1-Trichloroethane		ug/l	U		0.5
PW-B	1,1,2,2-Tetrachloroethane		ug/l	U		0.5
PW-B	1,1,2-Trichloroethane		ug/l	U		0.5
PW-B	1,1-Dichloroethane		ug/l	U		0.5
PW-B	1,1-Dichloroethene		ug/l	U		0.5
PW-B	1,2,4-Trichlorobenzene		ug/l	U		0.5
PW-B	1,2-Dibromo-3-chloropropane		ug/l	U		0.5
PW-B	1,2-Dibromoethane		ug/l	U		0.5
PW-B	1,2-Dichlorobenzene		ug/l	U		0.5
PW-B	1,2-Dichloroethane		ug/l	U		0.5
PW-B	1,2-Dichloropropane		ug/l	U		0.5
PW-B	1,3-Dichlorobenzene		ug/l	U		0.5
PW-B	1,4-Dichlorobenzene		ug/l	U		0.5
PW-B	2-Butanone		ug/l	U		3
PW-B	2-Hexanone		ug/l	U		3
PW-B	4-Methyl-2-pentanone		ug/l	U		3
PW-B	Acetone	1.4	ug/l	J		3
PW-B	Benzene		ug/l	U		0.5
PW-B	Bromodichloromethane		ug/l	U		0.5
PW-B	Bromoform		ug/l	U		0.5
PW-B	Bromomethane		ug/l	U		0.5
PW-B	Carbon disulfide		ug/l	U		0.5
PW-B	Carbon Tetrachloride		ug/l	U		0.5
PW-B	Chlorobenzene	0.04	ug/l	J		0.5
PW-B	Chloroethane		ug/l	U		0.5
PW-B	Chloroform		ug/l	U		0.5
PW-B	Chloromethane		ug/l	U		0.5
PW-B	cis-1,2-Dichloroethene		ug/l	U		0.5
PW-B	cis-1,3-Dichloropropene		ug/l	U		0.5
PW-B	Dibromochloromethane		ug/l	U		0.5
PW-B	Dichlorodifluoromethane		ug/l	U		0.5
PW-B	Ethyl Benzene		ug/l	U		0.5
PW-B	Isopropylbenzene		ug/l	U		0.5
PW-B	m,p-Xylene	0.061	ug/l	J		1
PW-B	Methyl tert-butyl ether		ug/l	U		0.5
PW-B	Methylene chloride	0.45	ug/l	JB	UB	0.5
PW-B	o-xylene		ug/l	U		0.5
PW-B	Styrene		ug/l	U		0.5
PW-B	Tetrachloroethene		ug/l	U		0.5
PW-B	Toluene	0.35	ug/l	JB	UB	0.5
PW-B	trans-1,2-Dichloroethene		ug/l	U		0.5
PW-B	trans-1,3-Dichloropropene		ug/l	U		0.5
PW-B	Trichloroethene		ug/l	U		0.5
PW-B	Trichlorofluoromethane		ug/l	U		0.5
PW-B	Vinyl chloride		ug/l	U		0.5
PW-B	Xylenes (total)	0.068	ug/l	J		0.5

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

CAS/LRH

J:209/0603/0305/2003/EPALetter/FullList\_PW-B.xls[PWB\_VOC]

**Residential Well PW-B  
September 2003 Results**

Well	SVOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-B	1,2,4,5-Tetrachlorobenzene		ug/l	U		5
PW-B	2,2'-oxybis(1-Chloropropane)		ug/l	U		5
PW-B	2,4,5-Trichlorophenol		ug/l	U		20
PW-B	2,4,6-Trichlorophenol		ug/l	U		5
PW-B	2,4-Dichlorophenol		ug/l	U		5
PW-B	2,4-Dimethylphenol		ug/l	U		5
PW-B	2,4-Dinitrophenol		ug/l	U		20
PW-B	2,4-Dinitrotoluene		ug/l	U		5
PW-B	2,6-Dinitrotoluene		ug/l	U		5
PW-B	2-Chloronaphthalene		ug/l	U		5
PW-B	2-Chlorophenol		ug/l	U		5
PW-B	2-Methylnaphthalene		ug/l	U		5
PW-B	2-Methylphenol		ug/l	U		5
PW-B	2-Nitroaniline		ug/l	U		20
PW-B	2-Nitrophenol		ug/l	U		5
PW-B	3,3'-Dichlorobenzidine		ug/l	U	UJ	5
PW-B	3-Nitroaniline		ug/l	U		20
PW-B	4,6-Dinitro-2-methylphenol		ug/l	U		20
PW-B	4-Bromophenyl-phenylether		ug/l	U		5
PW-B	4-Chloro-3-methylphenol		ug/l	U		5
PW-B	4-Chloroaniline		ug/l	U	UJ	5
PW-B	4-Chlorophenyl-phenyl ether		ug/l	U		5
PW-B	4-Methylphenol		ug/l	U		5
PW-B	4-Nitroaniline		ug/l	U		20
PW-B	4-Nitrophenol		ug/l	U		20
PW-B	Acenaphthene		ug/l	U		5
PW-B	Acenaphthylene		ug/l	U		5
PW-B	Acetophenone		ug/l	U		5
PW-B	Anthracene		ug/l	U		5
PW-B	Atazine		ug/l	U	UJ	5
PW-B	Benzo(a)anthracene		ug/l	U		5
PW-B	Benzo(a)pyrene		ug/l	U		5
PW-B	Benzo(b)fluoranthene		ug/l	U		5
PW-B	Benzo(g,h,i)perylene		ug/l	U		5
PW-B	Benzo(k)fluoranthene		ug/l	U		5
PW-B	Bis(2-chloroethoxy)methane		ug/l	U		5
PW-B	bis(2-chloroethyl) ether		ug/l	U		5
PW-B	Bis(2-ethylhexyl)phthalate		ug/l	U		5
PW-B	Butylbenzylphthalate		ug/l	U		5
PW-B	Chrysene		ug/l	U		5
PW-B	Dibenzo(a,h)anthracene		ug/l	U		5
PW-B	Dibenzofuran		ug/l	U		5
PW-B	Diethylphthalate		ug/l	U		5
PW-B	Dimethylphthalate		ug/l	U		5
PW-B	Di-n-butylphthalate		ug/l	U		5
PW-B	Di-n-octylphthalate		ug/l	U		5
PW-B	Fluoranthene		ug/l	U		5
PW-B	Fluorene		ug/l	U		5
PW-B	Hexachlorobenzene		ug/l	U		5
PW-B	Hexachlorobutadiene		ug/l	U		5
PW-B	Hexachlorocyclopentadiene		ug/l	U		5
PW-B	Hexachloroethane		ug/l	U		5
PW-B	Indeno(1,2,3-cd)pyrene		ug/l	U		5
PW-B	Isophorone		ug/l	U		5
PW-B	Naphthalene		ug/l	U		5
PW-B	Nitrobenzene		ug/l	U		5
PW-B	N-Nitroso-di-n-propylamine		ug/l	U		5
PW-B	N-Nitrosodiphenylamine		ug/l	U	UJ	5
PW-B	Pentachlorophenol		ug/l	U		5
PW-B	Phenanthrene		ug/l	U		5
PW-B	Phenol		ug/l	U		5
PW-B	Pyrene		ug/l	U		5

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

**Residential Well PW-B  
September 2003 Results**

Well	PCB/Pesticide Analyte	Result	Units	LQ	DQ	Detection Limit
PW-B	4,4'-DDD		ug/l	U		0.02
PW-B	4,4'-DDE		ug/l	U		0.02
PW-B	4,4'-DDT		ug/l	U		0.02
PW-B	Aldrin		ug/l	U	UJ	0.01
PW-B	alpha-BHC	0.0011	ug/l	JP	J	0.01
PW-B	alpha-Chlordane	0.0031	ug/l	BJP	UBJ	0.01
PW-B	Aroclor-1016		ug/l	U		0.2
PW-B	Aroclor-1221		ug/l	U		0.4
PW-B	Aroclor-1232		ug/l	U		0.2
PW-B	Aroclor-1242		ug/l	U		0.2
PW-B	Aroclor-1248		ug/l	U		0.2
PW-B	Aroclor-1254		ug/l	U		0.2
PW-B	Aroclor-1260		ug/l	U		0.2
PW-B	beta-BHC		ug/l	U		0.01
PW-B	delta-BHC		ug/l	U		0.01
PW-B	Dieldrin	0.0012	ug/l	BJ	UB	0.02
PW-B	Endosulfan I		ug/l	U		0.01
PW-B	Endosulfan II		ug/l	U		0.02
PW-B	Endosulfan sulfate		ug/l	U		0.02
PW-B	Endrin		ug/l	U		0.02
PW-B	Endrin aldehyde		ug/l	U		0.02
PW-B	Endrin ketone	0.0046	ug/l	BJP	UBJ	0.02
PW-B	gamma-BHC		ug/l	U	UJ	0.01
PW-B	gamma-Chlordane		ug/l	U		0.01
PW-B	Heptachlor		ug/l	U	UJ	0.01
PW-B	Heptachlor epoxide		ug/l	U		0.01
PW-B	Methoxychlor		ug/l	U		0.1
PW-B	Toxaphene		ug/l	U		1

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

P - The relative percent difference between the two GC column values was greater than 40%. The higher value has been reported.

**Residential Well PW-C  
September 2003 Results**

Well	VOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-C	1,1,1-Trichloroethane		ug/l	U		0.5
PW-C	1,1,2,2-Tetrachloroethane		ug/l	U		0.5
PW-C	1,1,2-Trichloroethane	0.78	ug/l			0.5
PW-C	1,1-Dichloroethane		ug/l	U		0.5
PW-C	1,1-Dichloroethene		ug/l	U		0.5
PW-C	1,2,4-Trichlorobenzene		ug/l	U		0.5
PW-C	1,2-Dibromo-3-chloropropane		ug/l	U		0.5
PW-C	1,2-Dibromoethane		ug/l	U		0.5
PW-C	1,2-Dichlorobenzene		ug/l	U		0.5
PW-C	1,2-Dichloroethane		ug/l	U		0.5
PW-C	1,2-Dichloropropane		ug/l	U		0.5
PW-C	1,3-Dichlorobenzene		ug/l	U		0.5
PW-C	1,4-Dichlorobenzene		ug/l	U		0.5
PW-C	2-Butanone		ug/l	U		3
PW-C	2-Hexanone		ug/l	U		3
PW-C	4-Methyl-2-pentanone		ug/l	U		3
PW-C	Acetone	1.2	ug/l	J		3
PW-C	Benzene		ug/l	U		0.5
PW-C	Bromodichloromethane		ug/l	U		0.5
PW-C	Bromoform		ug/l	U		0.5
PW-C	Bromomethane		ug/l	U		0.5
PW-C	Carbon disulfide	0.19	ug/l	J		0.5
PW-C	Carbon Tetrachloride		ug/l	U		0.5
PW-C	Chlorobenzene	0.04	ug/l	J		0.5
PW-C	Chloroethane		ug/l	U		0.5
PW-C	Chloroform	0.063	ug/l	J		0.5
PW-C	Chloromethane		ug/l	U		0.5
PW-C	cis-1,2-Dichloroethene		ug/l	U		0.5
PW-C	cis-1,3-Dichloropropene		ug/l	U		0.5
PW-C	Dibromochloromethane		ug/l	U		0.5
PW-C	Dichlorodifluoromethane		ug/l	U		0.5
PW-C	Ethyl Benzene		ug/l	U		0.5
PW-C	Isopropylbenzene		ug/l	U		0.5
PW-C	m,p-Xylene		ug/l	U		1
PW-C	Methyl tert-butyl ether		ug/l	U		0.5
PW-C	Methylene chloride	0.53	ug/l	B	UB	0.5
PW-C	o-xylene		ug/l	U		0.5
PW-C	Styrene		ug/l	U		0.5
PW-C	Tetrachloroethene		ug/l	U		0.5
PW-C	Toluene	0.31	ug/l	JB	UB	0.5
PW-C	trans-1,2-Dichloroethene		ug/l	U		0.5
PW-C	trans-1,3-Dichloropropene		ug/l	U		0.5
PW-C	Trichloroethene		ug/l	U		0.5
PW-C	Trichlorofluoromethane		ug/l	U		0.5
PW-C	Vinyl chloride		ug/l	U		0.5
PW-C	Xylenes (total)		ug/l	U		0.5

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

CAS/LRH

J:209/0603/0305/2003/EPALetter/FullList\_PW-C.xls[PWC\_VOC]

**Residential Well PW-C  
September 2003 Results**

Well	SVOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-C	1,2,4,5-Tetrachlorobenzene		ug/l	U		5
PW-C	2,2'-oxybis(1-Chloropropane)		ug/l	U		5
PW-C	2,4,5-Trichlorophenol		ug/l	U		20
PW-C	2,4,6-Trichlorophenol		ug/l	U		5
PW-C	2,4-Dichlorophenol		ug/l	U		5
PW-C	2,4-Dimethylphenol		ug/l	U		5
PW-C	2,4-Dinitrophenol		ug/l	U		20
PW-C	2,4-Dinitrotoluene		ug/l	U		5
PW-C	2,6-Dinitrotoluene		ug/l	U		5
PW-C	2-Chloronaphthalene		ug/l	U		5
PW-C	2-Chlorophenol		ug/l	U		5
PW-C	2-Methylnaphthalene		ug/l	U		5
PW-C	2-Methylphenol		ug/l	U		5
PW-C	2-Nitroaniline		ug/l	U		20
PW-C	2-Nitrophenol		ug/l	U		5
PW-C	3,3'-Dichlorobenzidine		ug/l	U	UJ	5
PW-C	3-Nitroaniline		ug/l	U		20
PW-C	4,6-Dinitro-2-methylphenol		ug/l	U		20
PW-C	4-Bromophenyl-phenylether		ug/l	U		5
PW-C	4-Chloro-3-methylphenol		ug/l	U		5
PW-C	4-Chloroaniline		ug/l	U	UJ	5
PW-C	4-Chlorophenyl-phenyl ether		ug/l	U		5
PW-C	4-Methylphenol		ug/l	U		5
PW-C	4-Nitroaniline		ug/l	U		20
PW-C	4-Nitrophenol		ug/l	U		20
PW-C	Acenaphthene		ug/l	U		5
PW-C	Acenaphthylene		ug/l	U		5
PW-C	Acetophenone		ug/l	U		5
PW-C	Anthracene		ug/l	U		5
PW-C	Atazine		ug/l	U	UJ	5
PW-C	Benzo(a)anthracene		ug/l	U		5
PW-C	Benzo(a)pyrene		ug/l	U		5
PW-C	Benzo(b)fluoranthene		ug/l	U		5
PW-C	Benzo(g,h,i)perylene		ug/l	U		5
PW-C	Benzo(k)fluoranthene		ug/l	U		5
PW-C	Bis(2-chloroethoxy)methane		ug/l	U		5
PW-C	bis(2-chloroethyl) ether		ug/l	U		5
PW-C	Bis(2-ethylhexyl)phthalate		ug/l	U		5
PW-C	Butylbenzylphthalate		ug/l	U		5
PW-C	Chrysene		ug/l	U		5
PW-C	Dibenzo(a,h)anthracene		ug/l	U		5
PW-C	Dibenzofuran		ug/l	U		5
PW-C	Diethylphthalate		ug/l	U		5
PW-C	Dimethylphthalate		ug/l	U		5
PW-C	Di-n-butylphthalate		ug/l	U		5
PW-C	Di-n-octylphthalate		ug/l	U		5
PW-C	Fluoranthene		ug/l	U		5
PW-C	Fluorene		ug/l	U		5
PW-C	Hexachlorobenzene		ug/l	U		5
PW-C	Hexachlorobutadiene		ug/l	U		5
PW-C	Hexachlorocyclopentadiene		ug/l	U		5
PW-C	Hexachloroethane		ug/l	U		5
PW-C	Indeno(1,2,3-cd)pyrene		ug/l	U		5
PW-C	Isophorone		ug/l	U		5
PW-C	Naphthalene		ug/l	U		5
PW-C	Nitrobenzene		ug/l	U		5
PW-C	N-Nitroso-di-n-propylamine		ug/l	U		5
PW-C	N-Nitrosodiphenylamine		ug/l	U	UJ	5
PW-C	Pentachlorophenol		ug/l	U		5
PW-C	Phenanthrene		ug/l	U		5
PW-C	Phenol		ug/l	U		5
PW-C	Pyrene		ug/l	U		5

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

CAS/LRH

J:209/0603/0305/2003/EPALetter/FullList\_PW-C.xls[PWC\_SVOC]

**Residential Well PW-C  
September 2003 Results**

Well	PCB/Pesticide Analyte	Result	Units	LQ	DQ	Detection Limit
PW-C	4,4'-DDD		ug/l	U		0.019
PW-C	4,4'-DDE		ug/l	U		0.019
PW-C	4,4'-DDT		ug/l	U		0.019
PW-C	Aldrin		ug/l	U	UJ	0.0093
PW-C	alpha-BHC		ug/l	U		0.0093
PW-C	alpha-Chlordane	0.00082	ug/l	BJP	UBJ	0.0093
PW-C	Aroclor-1016		ug/l	U		0.19
PW-C	Aroclor-1221		ug/l	U		0.37
PW-C	Aroclor-1232		ug/l	U		0.19
PW-C	Aroclor-1242		ug/l	U		0.19
PW-C	Aroclor-1248		ug/l	U		0.19
PW-C	Aroclor-1254		ug/l	U		0.19
PW-C	Aroclor-1260		ug/l	U		0.19
PW-C	beta-BHC		ug/l	U		0.0093
PW-C	delta-BHC		ug/l	U		0.0093
PW-C	Dieldrin	0.00026	ug/l	BJP	UBJ	0.019
PW-C	Endosulfan I		ug/l	U		0.0093
PW-C	Endosulfan II		ug/l	U		0.019
PW-C	Endosulfan sulfate		ug/l	U		0.019
PW-C	Endrin		ug/l	U		0.019
PW-C	Endrin aldehyde		ug/l	U		0.019
PW-C	Endrin ketone	0.00046	ug/l	BJP	UBJ	0.019
PW-C	gamma-BHC		ug/l	U	UJ	0.0093
PW-C	gamma-Chlordane	0.00042	ug/l	JP	J	0.0093
PW-C	Heptachlor		ug/l	U	UJ	0.0093
PW-C	Heptachlor epoxide		ug/l	U		0.0093
PW-C	Methoxychlor		ug/l	U		0.093
PW-C	Toxaphene		ug/l	U		0.93

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

P - The relative percent difference between the two GC column values was greater than 40%. The higher value has been reported.

**Residential Well PW-C  
September 2003 Results**

Well	Inorganic Analyte	Result	Units	LQ	DQ	Detection Limit
PW-C	Aluminum		ug/l	U		200
PW-C	Antimony		ug/l	U		10
PW-C	Arsenic		ug/l	U		10
PW-C	Barium	170	ug/l		B	10
PW-C	Beryllium		ug/l	U		5
PW-C	Cadmium		ug/l	U		5
PW-C	Calcium	89100	ug/l		B	5000
PW-C	Chromium (Total)	1	ug/l	B	UB	5
PW-C	Cobalt		ug/l	U		5
PW-C	Copper		ug/l	U		5
PW-C	Cyanide (Total)		ug/l	U		10
PW-C	Iron	2640	ug/l			100
PW-C	Lead		ug/l	U		3
PW-C	Magnesium	51400	ug/l		B	5000
PW-C	Manganese	36.9	ug/l		B	10
PW-C	Mercury		ug/l	U		0.2
PW-C	Nickel		ug/l	U		5
PW-C	Potassium	3370	ug/l	B	UB	5000
PW-C	Selenium	2.5	ug/l	UN		5
PW-C	Silver		ug/l	U		5
PW-C	Sodium	19700	ug/l		B	5000
PW-C	Thallium	3.7	ug/l	UN	UJ	10
PW-C	Vanadium	2	ug/l	B	UB	20
PW-C	Zinc	9.8	ug/l	BE	UBJ	20

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

LQ column flags

U - Compound not detected above the detection limit

N - Sample spike recovery was outside of control limits; concentration is considered estimated.

B - Compound was detected above the instrument detection limit but below the reporting limit; concentration is estimated.

E - Serial dilution not within 10%; concentration is estimated.

DQ column flags

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

**Residential Well PW-D  
September 2003 Results**

Well	Inorganic Analyte	Result	Units	LQ	DQ	Detection Limit
PW-D	Aluminum		ug/l	U		200
PW-D	Antimony		ug/l	U		10
PW-D	Arsenic		ug/l	U		10
PW-D	Barium	160	ug/l		B	10
PW-D	Beryllium		ug/l	U		5
PW-D	Cadmium		ug/l	U		5
PW-D	Calcium	96100	ug/l		B	5000
PW-D	Chromium (Total)		ug/l	U		5
PW-D	Cobalt		ug/l	U		5
PW-D	Copper		ug/l	U		5
PW-D	Cyanide (Total)		ug/l	U		10
PW-D	Iron	2440	ug/l			100
PW-D	Lead		ug/l	U		3
PW-D	Magnesium	50400	ug/l		B	5000
PW-D	Manganese	36.8	ug/l		B	10
PW-D	Mercury		ug/l	U		0.2
PW-D	Nickel		ug/l	U		5
PW-D	Potassium	3310	ug/l	B	UB	5000
PW-D	Selenium	2.5	ug/l	UN		5
PW-D	Silver		ug/l	U		5
PW-D	Sodium	19600	ug/l		B	5000
PW-D	Thallium	3.7	ug/l	UN	UJ	10
PW-D	Vanadium	2.1	ug/l	B	UB	20
PW-D	Zinc	16.7	ug/l	BE	UBJ	20

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

LQ column flags

U - Compound not detected above the detection limit

N - Sample spike recovery was outside of control limits; concentration is considered estimated.

B - Compound was detected above the instrument detection limit but below the reporting limit; concentration is estimated.

E - Serial dilution not within 10%; concentration is estimated.

DQ column flags

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

**Residential Well PW-D  
September 2003 Results**

Well	VOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-D	1,1,1-Trichloroethane		ug/l	U		0.5
PW-D	1,1,2,2-Tetrachloroethane		ug/l	U		0.5
PW-D	1,1,2-Trichloroethane		ug/l	U		0.5
PW-D	1,1-Dichloroethane		ug/l	U		0.5
PW-D	1,1-Dichloroethene		ug/l	U		0.5
PW-D	1,2,4-Trichlorobenzene		ug/l	U		0.5
PW-D	1,2-Dibromo-3-chloropropane		ug/l	U		0.5
PW-D	1,2-Dibromoethane		ug/l	U		0.5
PW-D	1,2-Dichlorobenzene		ug/l	U		0.5
PW-D	1,2-Dichloroethane		ug/l	U		0.5
PW-D	1,2-Dichloropropane		ug/l	U		0.5
PW-D	1,3-Dichlorobenzene		ug/l	U		0.5
PW-D	1,4-Dichlorobenzene		ug/l	U		0.5
PW-D	2-Butanone		ug/l	U		3
PW-D	2-Hexanone		ug/l	U		3
PW-D	4-Methyl-2-pentanone		ug/l	U		3
PW-D	Acetone	1.8	ug/l	J		3
PW-D	Benzene		ug/l	U		0.5
PW-D	Bromodichloromethane		ug/l	U		0.5
PW-D	Bromoform		ug/l	U		0.5
PW-D	Bromomethane		ug/l	U		0.5
PW-D	Carbon disulfide	0.08	ug/l	J		0.5
PW-D	Carbon Tetrachloride		ug/l	U		0.5
PW-D	Chlorobenzene		ug/l	U		0.5
PW-D	Chloroethane		ug/l	U		0.5
PW-D	Chloroform		ug/l	U		0.5
PW-D	Chloromethane		ug/l	U		0.5
PW-D	cis-1,2-Dichloroethene		ug/l	U		0.5
PW-D	cis-1,3-Dichloropropene		ug/l	U		0.5
PW-D	Dibromochloromethane		ug/l	U		0.5
PW-D	Dichlorodifluoromethane		ug/l	U		0.5
PW-D	Ethyl Benzene		ug/l	U		0.5
PW-D	Isopropylbenzene		ug/l	U		0.5
PW-D	m,p-Xylene		ug/l	U		1
PW-D	Methyl tert-butyl ether		ug/l	U		0.5
PW-D	Methylene chloride	0.52	ug/l	B	UB	0.5
PW-D	o-xylene		ug/l	U		0.5
PW-D	Styrene		ug/l	U		0.5
PW-D	Tetrachloroethene	0.046	ug/l	J		0.5
PW-D	Toluene	0.33	ug/l	JB	UB	0.5
PW-D	trans-1,2-Dichloroethene		ug/l	U		0.5
PW-D	trans-1,3-Dichloropropene		ug/l	U		0.5
PW-D	Trichloroethene		ug/l	U		0.5
PW-D	Trichlorofluoromethane		ug/l	U		0.5
PW-D	Vinyl chloride		ug/l	U		0.5
PW-D	Xylenes (total)		ug/l	U		0.5

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

CAS/LRH

J:209/0603/0305/2003/EPALetter/FullList\_PW-D.xls[PWD\_VOC]

**Residential Well PW-D  
September 2003 Results**

Well	SVOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-D	1,2,4,5-Tetrachlorobenzene		ug/l	U		5
PW-D	2,2'-oxybis(1-Chloropropane)		ug/l	U		5
PW-D	2,4,5-Trichlorophenol		ug/l	U		20
PW-D	2,4,6-Trichlorophenol		ug/l	U		5
PW-D	2,4-Dichlorophenol		ug/l	U		5
PW-D	2,4-Dimethylphenol		ug/l	U		5
PW-D	2,4-Dinitrophenol		ug/l	U		20
PW-D	2,4-Dinitrotoluene		ug/l	U		5
PW-D	2,6-Dinitrotoluene		ug/l	U		5
PW-D	2-Chloronaphthalene		ug/l	U		5
PW-D	2-Chlorophenol		ug/l	U		5
PW-D	2-Methylnaphthalene		ug/l	U		5
PW-D	2-Methylphenol		ug/l	U		5
PW-D	2-Nitroaniline		ug/l	U		20
PW-D	2-Nitrophenol		ug/l	U		5
PW-D	3,3'-Dichlorobenzidine		ug/l	U	UJ	5
PW-D	3-Nitroaniline		ug/l	U		20
PW-D	4,6-Dinitro-2-methylphenol		ug/l	U		20
PW-D	4-Bromophenyl-phenylether		ug/l	U		5
PW-D	4-Chloro-3-methylphenol		ug/l	U		5
PW-D	4-Chloroaniline		ug/l	U	UJ	5
PW-D	4-Chlorophenyl-phenyl ether		ug/l	U		5
PW-D	4-Methylphenol		ug/l	U		5
PW-D	4-Nitroaniline		ug/l	U		20
PW-D	4-Nitrophenol		ug/l	U		20
PW-D	Acenaphthene		ug/l	U		5
PW-D	Acenaphthylene		ug/l	U		5
PW-D	Acetophenone		ug/l	U		5
PW-D	Anthracene		ug/l	U		5
PW-D	Atazine		ug/l	U	UJ	5
PW-D	Benzo(a)anthracene		ug/l	U		5
PW-D	Benzo(a)pyrene		ug/l	U		5
PW-D	Benzo(b)fluoranthene		ug/l	U		5
PW-D	Benzo(g,h,i)perylene		ug/l	U		5
PW-D	Benzo(k)fluoranthene		ug/l	U		5
PW-D	Bis(2-chloroethoxy)methane		ug/l	U		5
PW-D	bis(2-chloroethyl) ether		ug/l	U		5
PW-D	Bis(2-ethylhexyl)phthalate		ug/l	U		5
PW-D	Butylbenzylphthalate		ug/l	U		5
PW-D	Chrysene		ug/l	U		5
PW-D	Dibenzo(a,h)anthracene		ug/l	U		5
PW-D	Dibenzofuran		ug/l	U		5
PW-D	Diethylphthalate		ug/l	U		5
PW-D	Dimethylphthalate		ug/l	U		5
PW-D	Di-n-butylphthalate		ug/l	U		5
PW-D	Di-n-octylphthalate		ug/l	U		5
PW-D	Fluoranthene		ug/l	U		5
PW-D	Fluorene		ug/l	U		5
PW-D	Hexachlorobenzene		ug/l	U		5
PW-D	Hexachlorobutadiene		ug/l	U		5
PW-D	Hexachlorocyclopentadiene		ug/l	U		5
PW-D	Hexachloroethane		ug/l	U		5
PW-D	Indeno(1,2,3-cd)pyrene		ug/l	U		5
PW-D	Isophorone		ug/l	U		5
PW-D	Naphthalene		ug/l	U		5
PW-D	Nitrobenzene		ug/l	U		5
PW-D	N-Nitroso-di-n-propylamine		ug/l	U		5
PW-D	N-Nitrosodiphenylamine		ug/l	U	UJ	5
PW-D	Pentachlorophenol		ug/l	U		5
PW-D	Phenanthrene		ug/l	U		5
PW-D	Phenol		ug/l	U		5
PW-D	Pyrene		ug/l	U		5

**Notes**

- Blank cell indicates analyte not detected in sample
- LQ - Lab qualifier
- DQ - Data Validation qualifier
- U - Analyte was not detected above the detection limit
- J - Estimated value; concentration detected is below detection limit

**Residential Well PW-D  
September 2003 Results**

Well	PCB/Pesticide Analyte	Result	Units	LQ	DQ	Detection Limit
PW-D	4,4'-DDD		ug/l	U		0.02
PW-D	4,4'-DDE		ug/l	U		0.02
PW-D	4,4'-DDT		ug/l	U		0.02
PW-D	Aldrin		ug/l	U	UJ	0.01
PW-D	alpha-BHC		ug/l	U		0.01
PW-D	alpha-Chlordane	0.0012	ug/l	BJP	UBJ	0.01
PW-D	Aroclor-1016		ug/l	U		0.2
PW-D	Aroclor-1221		ug/l	U		0.4
PW-D	Aroclor-1232		ug/l	U		0.2
PW-D	Aroclor-1242		ug/l	U		0.2
PW-D	Aroclor-1248		ug/l	U		0.2
PW-D	Aroclor-1254		ug/l	U		0.2
PW-D	Aroclor-1260		ug/l	U		0.2
PW-D	beta-BHC	0.00086	ug/l	BJP	UBJ	0.01
PW-D	delta-BHC		ug/l	U		0.01
PW-D	Dieldrin	0.0012	ug/l	BJP	UBJ	0.02
PW-D	Endosulfan I		ug/l	U		0.01
PW-D	Endosulfan II		ug/l	U		0.02
PW-D	Endosulfan sulfate		ug/l	U		0.02
PW-D	Endrin		ug/l	U		0.02
PW-D	Endrin aldehyde		ug/l	U		0.02
PW-D	Endrin ketone	0.00029	ug/l	BJP	UBJ	0.02
PW-D	gamma-BHC		ug/l	U	UJ	0.01
PW-D	gamma-Chlordane		ug/l	U		0.01
PW-D	Heptachlor		ug/l	U	UJ	0.01
PW-D	Heptachlor epoxide		ug/l	U		0.01
PW-D	Methoxychlor		ug/l	U		0.1
PW-D	Toxaphene		ug/l	U		1

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

P - The relative percent difference between the two GC column values was greater than 40%. The higher value has been reported.

**Residential Well PW-Y  
September 2003 Results**

Well	VOC Analyte	Result	Units	LQ	DQ	Detection Limit
PW-Y	1,1,1-Trichloroethane		ug/l	U		0.5
PW-Y	1,1,2,2-Tetrachloroethane		ug/l	U		0.5
PW-Y	1,1,2-Trichloroethane		ug/l	U		0.5
PW-Y	1,1-Dichloroethane		ug/l	U		0.5
PW-Y	1,1-Dichloroethene		ug/l	U		0.5
PW-Y	1,2,4-Trichlorobenzene		ug/l	U		0.5
PW-Y	1,2-Dibromo-3-chloropropane		ug/l	U		0.5
PW-Y	1,2-Dibromoethane		ug/l	U		0.5
PW-Y	1,2-Dichlorobenzene		ug/l	U		0.5
PW-Y	1,2-Dichloroethane		ug/l	U		0.5
PW-Y	1,2-Dichloropropane		ug/l	U		0.5
PW-Y	1,3-Dichlorobenzene		ug/l	U		0.5
PW-Y	1,4-Dichlorobenzene		ug/l	U		0.5
PW-Y	2-Butanone		ug/l	U		3
PW-Y	2-Hexanone		ug/l	U		3
PW-Y	4-Methyl-2-pentanone	1.5	ug/l	J		3
PW-Y	Acetone	1.8	ug/l	JB	UB	3
PW-Y	Benzene		ug/l	U		0.5
PW-Y	Bromodichloromethane	5.5	ug/l			0.5
PW-Y	Bromoform		ug/l	U		0.5
PW-Y	Bromomethane		ug/l	U		0.5
PW-Y	Carbon disulfide		ug/l	U		0.5
PW-Y	Carbon Tetrachloride		ug/l	U		0.5
PW-Y	Chlorobenzene	0.036	ug/l	JB	UB	0.5
PW-Y	Chloroethane		ug/l	U		0.5
PW-Y	Chloroform	8.1	ug/l			0.5
PW-Y	Chloromethane		ug/l	U		0.5
PW-Y	cis-1,2-Dichloroethene		ug/l	U		0.5
PW-Y	cis-1,3-Dichloropropene		ug/l	U		0.5
PW-Y	Dibromochloromethane	3.1	ug/l			0.5
PW-Y	Dichlorodifluoromethane		ug/l	U		0.5
PW-Y	Ethyl Benzene	0.057	ug/l	JB	UB	0.5
PW-Y	Isopropylbenzene		ug/l	U		0.5
PW-Y	m,p-Xylene	0.15	ug/l	JB	UB	1
PW-Y	Methyl tert-butyl ether		ug/l	U		0.5
PW-Y	Methylene chloride	0.62	ug/l	B	UB	0.5
PW-Y	o-xylene	0.19	ug/l	J		0.5
PW-Y	Styrene		ug/l	U		0.5
PW-Y	Tetrachloroethene	0.055	ug/l	JB	UB	0.5
PW-Y	Toluene	0.21	ug/l	JB	UBJ	0.5
PW-Y	trans-1,2-Dichloroethene		ug/l	U		0.5
PW-Y	trans-1,3-Dichloropropene		ug/l	U		0.5
PW-Y	Trichloroethene		ug/l	U		0.5
PW-Y	Trichlorofluoromethane		ug/l	U		0.5
PW-Y	Vinyl chloride		ug/l	U		0.5
PW-Y	Xylenes (total)	0.36	ug/l	JB	UB	0.5

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

CAS/LRH

J:209/0603/0305/2003/EPALetter/FullList\_PW-Y.xls[PWY\_VOC]

**Residential Well PW-Y  
September 2003 Results**

Well	SVOC Analyte	September 2003 Sample			November 2003 Resample			Units	Detection Limit
		Result	LQ	DQ	Result	LQ	DQ		
PW-Y	1,2,4,5-Tetrachlorobenzene		U			U		ug/l	5
PW-Y	2,2'-oxybis(1-Chloropropane)		U			U		ug/l	5
PW-Y	2,4,5-Trichlorophenol		U			U		ug/l	20
PW-Y	2,4,6-Trichlorophenol		U			U		ug/l	5
PW-Y	2,4-Dichlorophenol		U			U		ug/l	5
PW-Y	2,4-Dimethylphenol		U			U		ug/l	5
PW-Y	2,4-Dinitrophenol		U			U		ug/l	20
PW-Y	2,4-Dinitrotoluene		U			U		ug/l	5
PW-Y	2,6-Dinitrotoluene		U			U		ug/l	5
PW-Y	2-Chloronaphthalene		U			U		ug/l	5
PW-Y	2-Chlorophenol		U			U		ug/l	5
PW-Y	2-Methylnaphthalene		U			U		ug/l	5
PW-Y	2-Methylphenol		U			U		ug/l	5
PW-Y	2-Nitroaniline		U			U		ug/l	20
PW-Y	2-Nitrophenol		U			U		ug/l	5
PW-Y	3,3'-Dichlorobenzidine		U			U	R	ug/l	5
PW-Y	3-Nitroaniline		U			U		ug/l	20
PW-Y	4,6-Dinitro-2-methylphenol		U			U		ug/l	20
PW-Y	4-Bromophenyl-phenylether		U			U		ug/l	5
PW-Y	4-Chloro-3-methylphenol		U			U		ug/l	5
PW-Y	4-Chloroaniline		U			U	R	ug/l	5
PW-Y	4-Chlorophenyl-phenyl ether		U			U	UJ	ug/l	5
PW-Y	4-Methylphenol		U			U		ug/l	5
PW-Y	4-Nitroaniline		U			U		ug/l	20
PW-Y	4-Nitrophenol		U			U	UJ	ug/l	20
PW-Y	Acenaphthene		U			U		ug/l	5
PW-Y	Acenaphthylene		U			U		ug/l	5
PW-Y	Acetophenone		U			U		ug/l	5
PW-Y	Anthracene		U			U		ug/l	5
PW-Y	Atazine		U	UJ		U	UJ	ug/l	5
PW-Y	Benzo(a)anthracene		U			U		ug/l	5
PW-Y	Benzo(a)pyrene		U			U		ug/l	5
PW-Y	Benzo(b)fluoranthene		U			U		ug/l	5
PW-Y	Benzo(g,h,i)perylene		U			U		ug/l	5
PW-Y	Benzo(k)fluoranthene		U			U		ug/l	5
PW-Y	Bis(2-chloroethoxy)methane		U			U		ug/l	5
PW-Y	bis(2-chloroethyl) ether		U			U		ug/l	5
PW-Y	Bis(2-ethylhexyl)phthalate	1.2	JB	UB		U		ug/l	5
PW-Y	Butylbenzylphthalate		U			U		ug/l	5
PW-Y	Chrysene		U			U		ug/l	5
PW-Y	Dibenzo(a,h)anthracene		U			U		ug/l	5
PW-Y	Dibenzofuran		U			U		ug/l	5
PW-Y	Diethylphthalate		U			U		ug/l	5
PW-Y	Dimethylphthalate		U			U		ug/l	5
PW-Y	Di-n-butylphthalate		U			U		ug/l	5
PW-Y	Di-n-octylphthalate		U			U	UJ	ug/l	5
PW-Y	Fluoranthene		U			U		ug/l	5
PW-Y	Fluorene		U			U		ug/l	5
PW-Y	Hexachlorobenzene		U			U	UJ	ug/l	5
PW-Y	Hexachlorobutadiene		U			U		ug/l	5
PW-Y	Hexachlorocyclopentadiene		U			U	R	ug/l	5
PW-Y	Hexachloroethane		U			U		ug/l	5
PW-Y	Indeno(1,2,3-cd)pyrene		U			U		ug/l	5
PW-Y	Isophorone		U			U		ug/l	5
PW-Y	Naphthalene		U			U		ug/l	5
PW-Y	Nitrobenzene		U			U	UJ	ug/l	5
PW-Y	N-Nitroso-di-n-propylamine		U			U		ug/l	5
PW-Y	N-Nitrosodiphenylamine		U			U	UJ	ug/l	5
PW-Y	Pentachlorophenol	2.7	J			U		ug/l	5
PW-Y	Phenanthrene		U			U		ug/l	5
PW-Y	Phenol		U			U		ug/l	5
PW-Y	Pyrene		U			U		ug/l	5

**Notes**

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value, concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

R - Quality control indicates the data is not usable

**Residential Well PW-Y  
September 2003 Results**

Well	PCB/Pesticide Analyte	Result	Units	LQ	DQ	Detection Limit
PW-Y	4,4'-DDD		ug/l	U		0.02
PW-Y	4,4'-DDE		ug/l	U		0.02
PW-Y	4,4'-DDT		ug/l	U		0.02
PW-Y	Aldrin		ug/l	U	UJ	0.01
PW-Y	alpha-BHC		ug/l	U		0.01
PW-Y	alpha-Chlordane		ug/l	U		0.01
PW-Y	Aroclor-1016		ug/l	U		0.2
PW-Y	Aroclor-1221		ug/l	U		0.4
PW-Y	Aroclor-1232		ug/l	U		0.2
PW-Y	Aroclor-1242		ug/l	U		0.2
PW-Y	Aroclor-1248		ug/l	U		0.2
PW-Y	Aroclor-1254		ug/l	U		0.2
PW-Y	Aroclor-1260		ug/l	U		0.2
PW-Y	beta-BHC	0.0027	ug/l	BJP	UBJ	0.01
PW-Y	delta-BHC	0.004	ug/l	JP	J	0.01
PW-Y	Dieldrin	0.0013	ug/l	BJP	UBJ	0.02
PW-Y	Endosulfan I	0.0022	ug/l	J		0.01
PW-Y	Endosulfan II	0.0022	ug/l	J		0.02
PW-Y	Endosulfan sulfate	0.00091	ug/l	JP	J	0.02
PW-Y	Endrin		ug/l	U		0.02
PW-Y	Endrin aldehyde		ug/l	U		0.02
PW-Y	Endrin ketone	0.002	ug/l	BJP	UBJ	0.02
PW-Y	gamma-BHC		ug/l	U	UJ	0.01
PW-Y	gamma-Chlordane		ug/l	U		0.01
PW-Y	Heptachlor		ug/l	U	UJ	0.01
PW-Y	Heptachlor epoxide		ug/l	U		0.01
PW-Y	Methoxychlor		ug/l	U		0.1
PW-Y	Toxaphene		ug/l	U		1

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

P - The relative percent difference between the two GC column values was greater than 40%. The higher value has been reported.

**Residential Well PW-Y  
September 2003 Results**

Well	Inorganic Analyte	Result	Units	LQ	DQ	Detection Limit
PW-Y	Aluminum	70.1	ug/l	B		200
PW-Y	Antimony		ug/l	U		10
PW-Y	Arsenic		ug/l	U		10
PW-Y	Barium	24.8	ug/l		UB	10
PW-Y	Beryllium		ug/l	U		5
PW-Y	Cadmium		ug/l	U		5
PW-Y	Calcium	37700	ug/l		B	5000
PW-Y	Chromium (Total)		ug/l	U		5
PW-Y	Cobalt		ug/l	U		5
PW-Y	Copper	56.7	ug/l		B	5
PW-Y	Cyanide (Total)	2.2	ug/l	B		10
PW-Y	Iron	23.8	ug/l	B		100
PW-Y	Lead	2.6	ug/l	B	UB	3
PW-Y	Magnesium	11900	ug/l		B	5000
PW-Y	Manganese	3	ug/l	B	UB	10
PW-Y	Mercury		ug/l	U		0.2
PW-Y	Nickel		ug/l	U		5
PW-Y	Potassium	2410	ug/l	B	UB	5000
PW-Y	Selenium	2.5	ug/l	UN		5
PW-Y	Silver		ug/l	U		5
PW-Y	Sodium	9090	ug/l		UB	5000
PW-Y	Thallium	3.7	ug/l	UN	UJ	10
PW-Y	Vanadium	1.2	ug/l	B	UB	20
PW-Y	Zinc	273	ug/l	E	JB	20

Notes

Blank cell indicates analyte not detected in sample

LQ - Lab qualifier

DQ - Data Validation qualifier

LQ column flags

U - Compound not detected above the detection limit

N - Sample spike recovery was outside of control limits; concentration is considered estimated.

B - Compound was detected above the instrument detection limit but below the reporting limit; concentration is estimated.

E - Serial dilution not within 10%; concentration is estimated.

DQ column flags

U - Analyte was not detected above the detection limit

J - Estimated value; concentration detected is below detection limit

B - Indicates analyte detected in laboratory blank

**Residential Well Sampling Identification and Location**  
**American Chemical Service NPL Site**

*sent letter*

Well ID	Occupant	Landlord/Owner	Address	Phone	Sample Location
PW-Y	New tenants, names unknown	Ron Augstgen	1002 Reder Road	219) 924-7528	Outside spigot on north (rear) side of house. Connected to city water in May 2003.
PW-A	Brisson (Karen)	Max Hanson <i>Deerhe, IL / 219-46319-3115</i>	1007 Reder Road	219) 934-9162	Newer residents, rent but plan to buy. Outside spigot on west side of house. They do not drink the water.
PW-B	James Garmon	Owner	1009 Reder Road	219) 924-2105	Outside spigot on south (front) side of house next to front entrance
PW-C	Charles Gregory	Owner	1029 Reder Road	219) 934-9121	Outside spigot on east side of house, near well.
PW-D	Frank Floyd	Owner	1033 Reder Road	219) 924-5488	Spout inside shed located against north (rear) side of house. Sample before water treatment system. New well installed in 1996, approx. depth 75 feet.

*(owner) ✓*  
*(to renter) ✓*  
*(owner) ✓*  
 ✓  
 ✓

Updated: Jan. 14, 2004

**Summary of Inorganic Compound Detections in Residential Wells - September 2003**  
**American Chemical Services NPL Site**  
**Griffith, Indiana**

Analyte	U.S. EPA MCL	MDL (ug/l)	PQL (ug/l)	PW-A			PW-B			PW-C			PW-D			PW-Y		
				Result	LQ	DV	PW-B	LQ	DV	PW-C	LQ	DV	PW-D	LQ	DV	PW-Y	LQ	DV
Aluminum	NA	69.6	200		U			U			U		U		✓70.1	B		
Antimony	6	1.9	10		U			U			U		U			U		
Arsenic	50	2.1	10		U			U			U		U			U		
Barium	2,000	1.3	10	✓140		B	✓136		UB	✓170		B	✓160		B	✓24.8	UB	
Beryllium	4	0.2	5		U			U			U		U			U		
Cadmium	5	0.3	5		U			U			U		U			U		
Calcium	NA	12.3	5,000	✓87,400		B	✓86,700		B	✓89,100		B	✓96,100		B	✓37,700	B	
Chromium	100	1	5		U		✓1.4	B	UB	✓1	B	UB		U		U		
Cobalt	NA	0.8	5		U			U			U		U			U		
Copper	1,300	1.3	5	✓4.0	B	UB	✓48.1		B		U		U		U	✓56.7	B	
Cyanide	200	0.6	10		U			U			U		U		U	✓2.2	B	
Iron	NA	12.2	100	✓2,200			✓3,080			✓2,640			✓2,440			✓24	B	
Lead	15	1.1	3	✓1.5	B	UB	✓12.9		B		U		U		U	✓2.6	B	UB
Magnesium	NA	3.9	5,000	✓45,600		B	✓41,700		B	✓51,400		B	✓50,400		B	✓11,900	B	
Manganese	NA	1.8	10	✓36.9		B	✓59.5		B	✓36.9		B	✓36.8		B	✓3.0	B	UB
Mercury	2	0.1	0.2		U			U			U		U			U		
Nickel	NA	1	5		U		✓1.1	B			U		U			U		
Potassium	NA	26.9	5,000	✓3,230	B	UB	✓2,730	B	UB	✓3,370	B	UB	✓3,310	B	UB	✓2,410	B	UB
Selenium	50	2.5	5	✗2.5	UN		✗2.5	UN										
Silver	NA	0.9	5		U		1	B			U		U			U		
Sodium	NA	154	5,000	✓20,400		B	✓20,200		B	✓19,700		B	✓19,600		B	✓9,090	UB	
Thallium	2	3.7	10	✗3.7	UN	UJ	✗3.7	UN	UJ									
Vanadium	NA	0.3	20	✓1.7	B	UB	✓1.7	B	UB	✓2	B	UB	✓2.1	B	UB	✓1.2	B	UB
Zinc	NA	2.2	20	✓22.2	E	UBJ	✓25.3	E	UBJ	✓9.8	BE	UBJ	✓16.7	BE	UBJ	273	E	J

**Notes:**

All results in micrograms per liter (ug/l).  
A blank cell indicates parameter not detected.  
MCL = Maximum Contaminant Level  
NA = MCL does not exist for this analyte  
MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
LQ = Data qualifier added by laboratory  
DV = Data qualifier added by validation

**LQ Flags**

U = Compound was not detected above the PQL.  
N = Sample spike recovery was outside of control limits  
E = Serial dilution not within 10%. Concentration is estimated.  
B = Compound was detected above the MDL but below the PQL.  
It is considered an estimated concentration.

**DV Flags**

B = Compound was detected in sample and in associated blank.  
J = Indicates an estimated value.  
UB = Compound not detected above indicated concentration due to blank contamination  
UJ = Compound not detected, and detection limit is an estimated value.

**Summary of Detections in Residential Well PW-A**  
**September 2003**  
**American Chemical Service NPL Site, Griffith, Indiana**

Analytical Parameter	U.S. EPA MCL	Sep-03				Nov-03			
		Results	LQ	DQ	RL	Results	LQ	DQ	RL
<b>Volatile Organic Compounds</b>									
Acetone	NA	1.5	J		3	Not re-sampled because there were no MCL exceedances in the original sample			
Chlorobenzene	100	0.057	J		0.5				
Chloroform	NA	0.035	J		0.5				
Tetrachloroethene	5	0.043	J		0.5				
Xylenes	10,000	0.091	J		0.5				
<b>Semi-Volatile Organic Compounds</b>									
Pentachlorophenol	1	<b>15</b>			5		U		5
Phenanthrene	NA	1.3	J		5		U		5
Pyrene	NA	0.73	J		5		U		5
<b>PCBs/Pesticides</b>									
4,4'-DDT	NA	0.0003	JP	J	0.02	Not re-sampled because there were no MCL exceedances in the original sample			
Endosulfan sulfate	NA	0.00045	JP	J	0.02				
Endrin	2	0.0017	J	J	0.02				
Endrin aldehyde	NA	0.00099	JP	J	0.02				
gamma-Chlordane	2	0.00058	JP	J	0.01				
<b>Inorganics</b>									
Barium	2,000	140		B	10	Not re-sampled because there were no MCL exceedances in the original sample			
Calcium	NA	87,400		B	5,000				
Iron	NA	2,200			100				
Magnesium	NA	45,600		B	5,000				
Manganese	NA	36.9		B	10				
Sodium	NA	20,400		B	5,000				

**Notes:**

All results in micrograms per liter (ug/l).

A blank cell indicates parameter not detected.

Only detected compounds listed.

Gray shaded boxes indicate compound not analyzed

**Bold** result indicates exceedance of MCL.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

U = Compound not detected above RL

J = Estimated value

P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

**DV Column Flags**

B = Compound was detected in sample and in associated blank.

J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-A**  
**September 2003**  
**American Chemical Service NPL Site, Griffith, Indiana**

Analytical Parameter	U.S. EPA MCL	Sep-03				Nov-03			
		Results	LQ	DQ	RL	Results	LQ	DQ	RL
<b>Volatile Organic Compounds</b>									
Acetone	NA	1.5	J		3	Not re-sampled because there were no MCL exceedances in the original sample			
Chlorobenzene	100	0.057	J		0.5				
Chloroform	NA	0.035	J		0.5				
Methylene Chloride	NA	0.48	JB	UB	0.5				
Toluene	1,000	0.43	JB	UB	0.5				
Tetrachloroethene	5	0.043	J		0.5				
Xylenes	10,000	0.091	J		0.5				
<b>Semi-Volatile Organic Compounds</b>									
Pentachlorophenol	1	15			5		U		5
Phenanthrene	NA	1.3	J		5		U		5
Pyrene	NA	0.73	J		5		U		5
<b>PCBs/Pesticides</b>									
4,4'-DDT	NA	0.0003	JP	J	0.02	Not re-sampled because there were no MCL exceedances in the original sample			
alpha-Chlordane	2	0.0019	BJP	UBJ	0.01				
Dieldrin	NA	0.00093	BJP	UBJ	0.02				
Endosulfan sulfate	NA	0.00045	JP	J	0.02				
Endrin	2	0.0017	J	J	0.02				
Endrin aldehyde	NA	0.00099	JP	J	0.02				
Endrin ketone	NA	0.00098	BJP	UBJ	0.02				
gamma-Chlordane	2	0.00058	JP	J	0.01				
<b>Inorganics</b>									
Barium	2,000	140		B	10	Not re-sampled because there were no MCL exceedances in the original sample			
Calcium	NA	87,400		B	5,000				
Copper	1,300	4.0	B	UB	5				
Iron	NA	2,200			100				
Lead	15	1.5	B	UB	3				
Magnesium	NA	45,600		B	5,000				
Manganese	NA	36.9		B	10				
Potassium	NA	3,230	B	UB	5000				
Selenium	50	2.5	UN		5				
Sodium	NA	20,400		B	5,000				
Thallium	2	3.7	UN	UJ	10				
Vanadium	NA	1.7	B	UB	20				
Zinc	NA	22.2	E	UBJ	20				

**Notes:**

All results in micrograms per liter (ug/l)  
A blank cell indicates parameter not detected  
Only detected compounds listed.  
Gray shaded boxes indicate compound not analyzed  
**Bold** result indicates exceedance of MCL  
MCL = Maximum Contaminant Level  
NA = MCL does not exist for this analyte  
RL = Reporting Limit  
LQ = Data qualifier added by laboratory (see below)  
DV = Data qualifier added by validation (see below)

**LQ Column Flags**

U = Compound not detected above RL  
J, B(inorganics only) = Estimated value  
B = Indicates analyte detected in laboratory blank  
N = Sample spike recovery was outside of control limits  
P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.  
E = Serial dilution not within 10%. Concentration is estimated.

**DV Column Flags**

U = Compound considered not detected above listed concentration  
B = Compound was detected in sample and in associated blank.  
J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-B  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA	PW-B			
	MCL	Sep-03	LQ	DQ	RL
<b>Volatile Organic Compounds</b>					
Acetone	NA	1.4	J		3
Chlorobenzene	100	0.04	J		0.5
Methylene Chloride	NA	0.45	JB	UB	0.5
Toluene	1,000	0.35	JB	UB	0.5
Xylene (total)	10,000	0.068	J		0.5
<b>Semi-Volatile Organic Compounds</b>					
None detected					
<b>PCBs/Pesticides</b>					
alpha-Chlordane	2	0.0031	BJP	UBJ	0.01
alpha-BHC	0.2	0.0011	JP	J	0.01
Dieldrin	NA	0.0012	BJ	UB	0.02
Endrin ketone	NA	0.0046	BJP	UBJ	0.02
<b>Inorganics</b>					
Barium	2,000	136		UB	10
Calcium	NA	86,700		B	5,000
Chromium	100	1.4	B	UB	5
Copper	1,300	48.1		B	5
Iron	NA	3,080			100
Lead	15	12.9		B	3
Magnesium	NA	41,700		B	5,000
Manganese	NA	59.5		B	10
Nickel	NA	1.1	B		5
Potassium	NA	2,730	B	UB	5,000
Selenium	50	2.5	UN		5
Silver	NA	1	B		5
Sodium	NA	20,200		B	5,000
Thallium	2	3.7	UN	UJ	10
Vanadium	NA	1.7	B	UB	20
Zinc	NA	25.3	E	UBJ	20

**Notes:**

All results in micrograms per liter (ug/l).

Only detected compounds listed.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

U = Compound not detected above RL

J, B(inorganics only) = Estimated value

B = Indicates analyte detected in laboratory blank

N = Sample spike recovery was outside of control limits

P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

E = Serial dilution not within 10%. Concentration is estimated.

**DV Column Flags**

U = Compound considered not detected above listed concentration

B = Compound was detected in sample and in associated blank.

J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-B  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA MCL	PW-B			
		Sep-03	LQ	DV	RL
<b>Volatile Organic Compounds</b>					
Acetone	NA	1.4	J		3
Chlorobenzene	100	0.04	J		0.5
Xylene (total)	10,000	0.068	J		0.5
<b>Semi-Volatile Organic Compounds</b>					
None detected					
<b>PCBs/Pesticides</b>					
alpha-BHC	0.2	0.0011	JP	J	0.01
<b>Inorganics</b>					
Calcium	NA	86,700		B	5,000
Copper	1,300	48.1		B	5
Iron	NA	3,080			100
Lead	15	12.9		B	3
Magnesium	NA	41,700		B	5,000
Manganese	NA	59.5		B	10
Nickel	NA	1.1	B		5
Silver	NA	1	B		5
Sodium	NA	20,200		B	5,000

**Notes:**

All results in micrograms per liter (ug/l).

Only detected compounds listed.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

J, B(inorganics only) = Estimated value

B = Indicates analyte detected in laboratory blank

P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

**DV Column Flags**

B = Compound was detected in sample and in associated blank.

J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-C  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA	PW-C			
	MCL	Sep-03	LQ	DQ	RL
<b>Volatile Organic Compounds</b>					
1,1,2-Trichloroethane	5	0.78			0.5
Acetone	NA	1.2	J		3
Carbon Disulfide	NA	0.19	J		0.5
Chlorobenzene	100	0.04	J		0.5
Chloroform	NA	0.063	J		0.5
Methylene Chloride	NA	0.53	B	UB	0.5
Toluene	1,000	0.31	JB	UB	0.5
<b>Semi-Volatile Organic Compounds</b>					
None detected					
<b>PCBs/Pesticides</b>					
alpha-Chlordane	2	0.0008	BJP	UBJ	0.01
Dieldrin	NA	0.00026	BJP	UBJ	0.02
Endrin ketone	NA	0.00046	BJP	UBJ	0.02
gamma-Chlordane	2	0.00042	JP	J	0.01
<b>Inorganics</b>					
Barium	2,000	170		B	10
Calcium	NA	89,100		B	5,000
Chromium	100	1	B	UB	5
Iron	NA	2,640			100
Magnesium	NA	51,400		B	5,000
Manganese	NA	36.9		B	10
Potassium	NA	3,370	B	UB	5,000
Selenium	50	2.5	UN		5
Sodium	NA	19,700		B	5,000
Thallium	2	3.7	UN	UJ	10
Vanadium	NA	2	B	UB	20
Zinc	NA	9.8	BE	UBJ	20

**Notes:**

All results in micrograms per liter (ug/l).

Only detected compounds listed.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

U = Compound not detected above RL

J, B(inorganics only) = Estimated value

B = Indicates analyte detected in laboratory blank

N = Sample spike recovery was outside of control limits

P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

E = Serial dilution not within 10%. Concentration is estimated.

**DV Column Flags**

U = Compound considered not detected above listed concentration

B = Compound was detected in sample and in associated blank.

J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-C  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA MCL	PW-C			
		Sep-03	LQ	DQ	RL
<b>Volatile Organic Compounds</b>					
1,1,2-Trichloroethane	5	0.78			0.5
Acetone	NA	1.2	J		3
Carbon Disulfide	NA	0.19	J		0.5
Chlorobenzene	100	0.04	J		0.5
Chloroform	NA	0.063	J		0.5
<b>Semi-Volatile Organic Compounds</b>					
None detected					
<b>PCBs/Pesticides</b>					
gamma-Chlordane	2	0.00042	JP	J	0.01
<b>Inorganics</b>					
Barium	2,000	170		B	10
Calcium	NA	89,100		B	5,000
Iron	NA	2,640			100
Magnesium	NA	51,400		B	5,000
Manganese	NA	36.9		B	10
Sodium	NA	19,700		B	5,000

Notes:

All results in micrograms per liter (ug/l).

Only detected compounds listed.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

J = Estimated value

P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

**DV Column Flags**

B = Compound was detected in sample and in associated blank.

J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-D  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA	PW-D			
	MCL	Sep-03	LQ	DQ	RL
<b>Volatile Organic Compounds</b>					
Acetone	NA	1.8	J		3
Carbon Disulfide	NA	0.08	J		0.5
Methylene Chloride	NA	0.52	B	UB	0.5
Toluene	1,000	0.33	JB	UB	0.5
Tetrachloroethene	5	0.046	J		0.5
<b>Semi-Volatile Organic Compounds</b>					
None detected					
<b>PCBs/Pesticides</b>					
alpha-Chlordane	2	0.0012	BJP	UBJ	0.01
beta-BHC	0.2	0.00086	BJP	UBJ	0.01
Dieldrin	NA	0.0012	BJP	UBJ	0.02
Endrin ketone	NA	0.00029	BJP	UBJ	0.02
<b>Inorganics</b>					
Barium	2,000	160		B	10
Calcium	NA	96,100		B	5,000
Iron	NA	2,440			100
Magnesium	NA	50,400		B	5,000
Manganese	NA	36.8		B	10
Potassium	NA	3,310	B	UB	5,000
Selenium	50	2.5	UN		5
Sodium	NA	19,600		B	5,000
Thallium	2	3.7	UN	UJ	10
Vanadium	NA	2.1	B	UB	20
Zinc	NA	16.7	BE	UBJ	20

**Notes:**

All results in micrograms per liter (ug/l).

Only detected compounds listed.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

U = Compound not detected above RL

J, B(inorganics only) = Estimated value

B = Indicates analyte detected in laboratory blank

N = Sample spike recovery was outside of control limits

P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

E = Serial dilution not within 10%. Concentration is estimated.

**DV Column Flags**

U = Compound considered not detected above listed concentration

B = Compound was detected in sample and in associated blank.

J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-D  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA	PW-D			
	MCL	Sep-03	LQ	DQ	RL
<b>Volatile Organic Compounds</b>					
Acetone	NA	1.8	J		3
Carbon Disulfide	NA	0.08	J		0.5
Tetrachloroethene	5	0.046	J		0.5
<b>Semi-Volatile Organic Compounds</b>					
None detected					
<b>PCBs/Pesticides</b>					
None detected					
<b>Inorganics</b>					
Barium	2,000	160		B	10
Calcium	NA	96,100		B	5,000
Iron	NA	2,440			100
Magnesium	NA	50,400		B	5,000
Manganese	NA	36.8		B	10
Sodium	NA	19,600		B	5,000

**Notes:**

All results in micrograms per liter (ug/l).

Only detected compounds listed.

MCL = Maximum Contaminant Level

NA = MCL does not exist for this analyte

RL = Reporting Limit

LQ = Data qualifier added by laboratory (see below)

DV = Data qualifier added by validation (see below)

**LQ Column Flags**

J = Estimated value

**DV Column Flags**

B = Compound was detected in sample and in associated blank.

**Summary of Detections in Residential Well PW-Y  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA	Sep-03				Nov-03			
	MCL	Results	LQ	DQ	RL	Results	LQ	DQ	RL
<b>Volatile Organic Compounds</b>									
4-Methyl-2-pentanone	NA	1.5	J		3	Not re-sampled because there were no MCL exceedances in the original sample			
Acetone	NA	1.8	JB	UB	3				
Bromodichloromethane	NA	5.5			0.5				
Chlorobenzene	100	0.036	JB	UB	0.5				
Chloroform	NA	8.1			0.5				
Dibromochloromethane	NA	3.1			0.5				
Ethylbenzene	700	0.057	JB	UB	0.5				
Methylene Chloride	NA	0.62	B	UB	0.5				
Toluene	1,000	0.21	JB	UBJ	0.5				
Tetrachloroethene	5	0.055	JB	UB	0.5				
Xylene (total)	10,000	0.36	JB	UB	0.5				
<b>Semi-Volatile Organic Compounds</b>									
Bis(2-ethylhexyl)phthalate	6	1.2	JB	UB	5		U		5
Pentachlorophenol	1	2.7	J		5		U		5
<b>PCBs/Pesticides</b>									
beta-BHC	0.2	0.0027	BJP	UBJ	0.01	Not re-sampled because there were no MCL exceedances in the original sample			
delta-BHC	0.2	0.004	JP	J	0.009				
Dieldrin	NA	0.0013	BJP	UBJ	0.02				
Endosulfan I	NA	0.0022	J		0.01				
Endosulfan II	NA	0.0022	J		0.02				
Endosulfan sulfate	NA	0.00091	JP	J	0.02				
Endrin ketone	NA	0.002	BJP	UBJ	0.02				
<b>Inorganics</b>									
Aluminum	NA	70.1	B		200	Not re-sampled because there were no MCL exceedances in the original sample			
Barium	2,000	24.8		UB	10				
Calcium	NA	37,700		B	5,000				
Copper	1,300	56.7		B	5				
Cyanide	200	2.2	B		10				
Iron	NA	24	B		100				
Lead	15	2.6	B	UB	3				
Magnesium	NA	11,900		B	5,000				
Manganese	NA	3.0	B	UB	10				
Potassium	NA	2,410	B	UB	5,000				
Selenium	50	2.5	UN		5				
Sodium	NA	9,090		UB	5,000				
Thallium	2	3.7	UN	UJ	10				
Vanadium	NA	1.2	B	UB	20				
Zinc	NA	273	E	J	20				

**Notes:**

All results in micrograms per liter (ug/l)  
 A blank cell indicates parameter not detected  
 Only detected compounds listed.  
 Gray shaded boxes indicate compound not analyzed  
**Bold** result indicates exceedance of MCL  
 MCL = Maximum Contaminant Level  
 NA = MCL does not exist for this analyte  
 RL = Reporting Limit  
 LQ = Data qualifier added by laboratory (see below)  
 DV = Data qualifier added by validation (see below)

**LQ Column Flags**

U = Compound not detected above RL  
 J, B(inorganics only) = Estimated value  
 B = Indicates analyte detected in laboratory blank  
 N = Sample spike recovery was outside of control limits  
 P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.  
 E = Serial dilution not within 10%. Concentration is estimated.

**DV Column Flags**

U = Compound considered not detected above listed concentration  
 B = Compound was detected in sample and in associated blank.  
 J = Concentration considered to be an estimated value.

**Summary of Detections in Residential Well PW-Y  
September 2003  
American Chemical Service NPL Site, Griffith, Indiana**

Parameter	U.S. EPA MCL	Sep-03				Nov-03			
		Results	LQ	DQ	RL	Results	LQ	DQ	RL
<b>Volatile Organic Compounds</b>									
4-Methyl-2-pentanone	NA	1.5	J		3	Not re-sampled because there were no MCL exceedances in the original sample			
Bromodichloromethane	NA	5.5			0.5				
Chloroform	NA	8.1			0.5				
Dibromochloromethane	NA	3.1			0.5				
<b>Semi-Volatile Organic Compounds</b>									
Pentachlorophenol	1	2.7	J		5		U		5
<b>PCBs/Pesticides</b>									
delta-BHC	0.2	0.004	JP	J	0.009	Not re-sampled because there were no MCL exceedances in the original sample			
Endosulfan I	NA	0.0022	J		0.01				
Endosulfan II	NA	0.0022	J		0.02				
Endosulfan sulfate	NA	0.00091	JP	J	0.02				
<b>Inorganics</b>									
Aluminum	NA	70.1	B		200	Not re-sampled because there were no MCL exceedances in the original sample			
Calcium	NA	37,700		B	5,000				
Copper	1,300	56.7		B	5				
Cyanide	200	2.2	B		10				
Iron	NA	24	B		100				
Magnesium	NA	11,900		B	5,000				
Zinc	NA	273	E	J	20				

**Notes:**

All results in micrograms per liter (ug/l)  
 A blank cell indicates parameter not detected  
 Only detected compounds listed.  
 Gray shaded boxes indicate compound not analyzed  
**Bold** result indicates exceedance of MCL  
 MCL = Maximum Contaminant Level  
 NA = MCL does not exist for this analyte  
 RL = Reporting Limit  
 LQ = Data qualifier added by laboratory (see below)  
 DV = Data qualifier added by validation (see below)

**LQ Column Flags**

J, B(inorganics only) = Estimated value  
 B = Indicates analyte detected in laboratory blank  
 P = The Relative Percent Difference between the two GC column values is greater than 40%. Higher value has been reported.

**DV Column Flags**

B = Compound was detected in sample and in associated blank  
 J = Concentration considered to be an estimated value.